Multiplexer

Mini Project Report Computational Techniques I

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Contents

1. INTRODUCTION

Multiplexer sometimes abbreviated as **MUX** and also called **Data Selector** is combinational logic circuit with many INPUT channels and selects only one and connects it to OUTPUT channel.

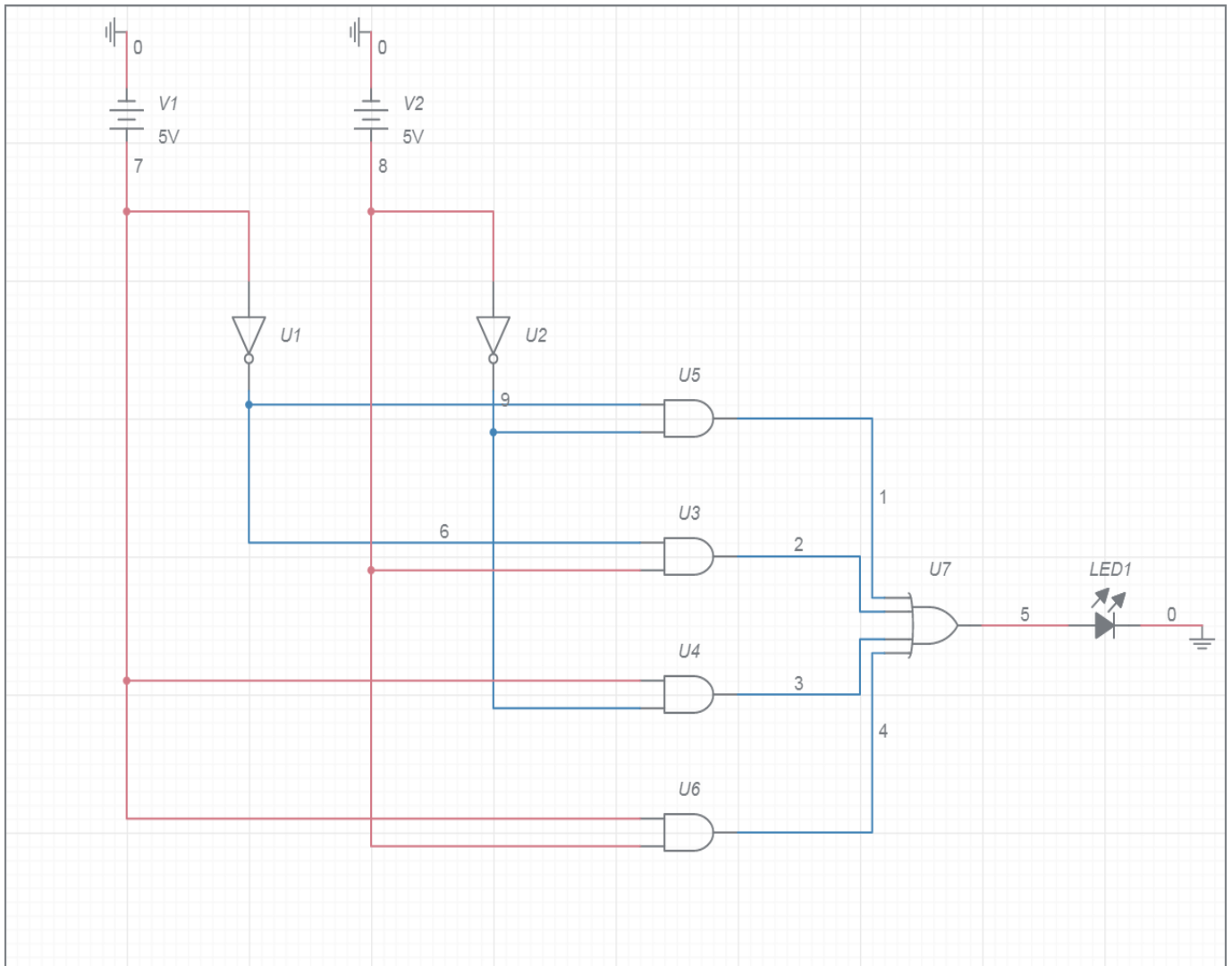The process in which a number of input signals are shared by a logic circuit is called **Multiplexing**.

The process which does opposite of multiplexing is called demultiplexing and the circuit is called DeMultiplexer.

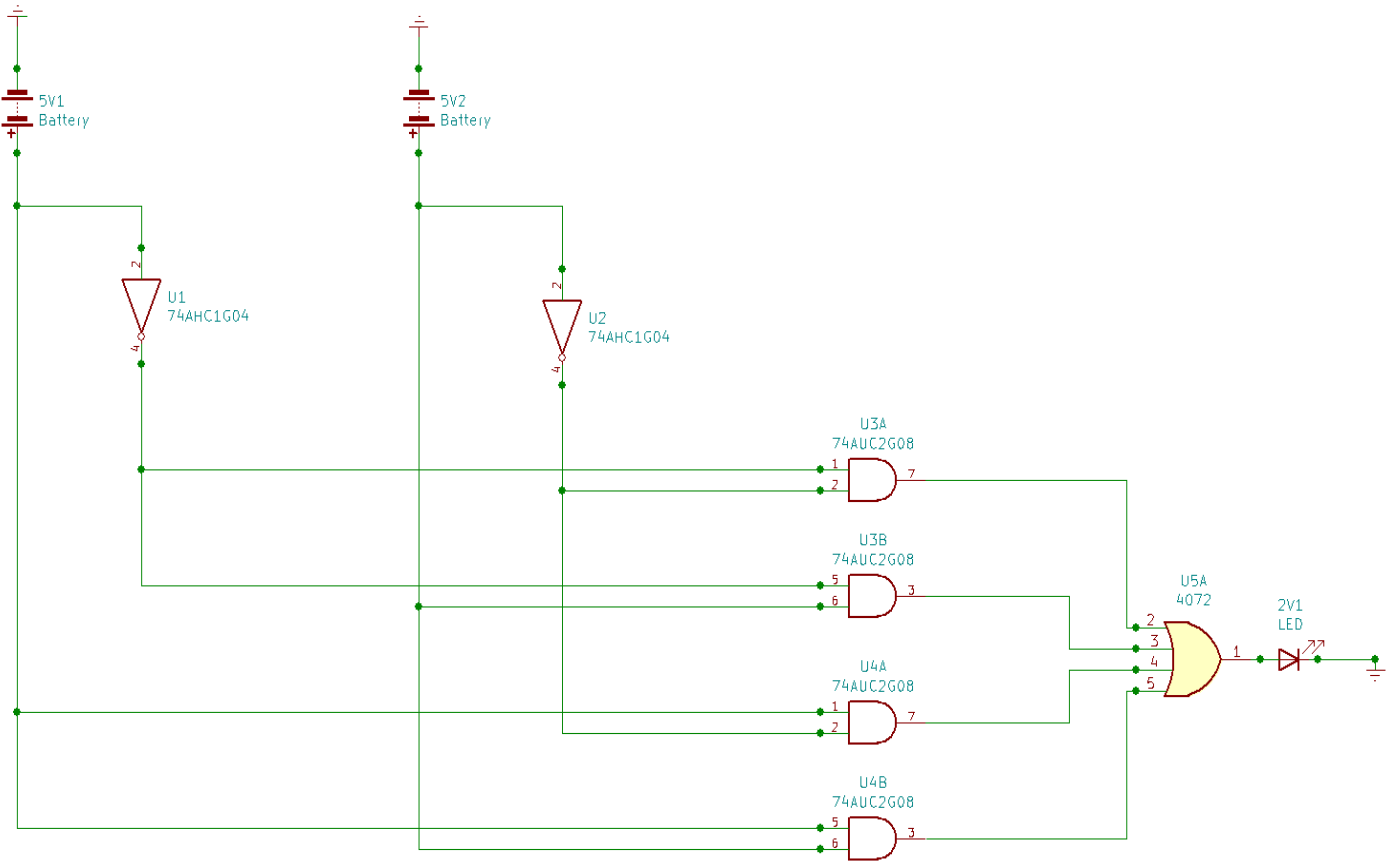It is always of form 2^n x 1, where n is the number of inputs.

2. FUNCTIONALITY AND WORKING OF THE CIRCUIT
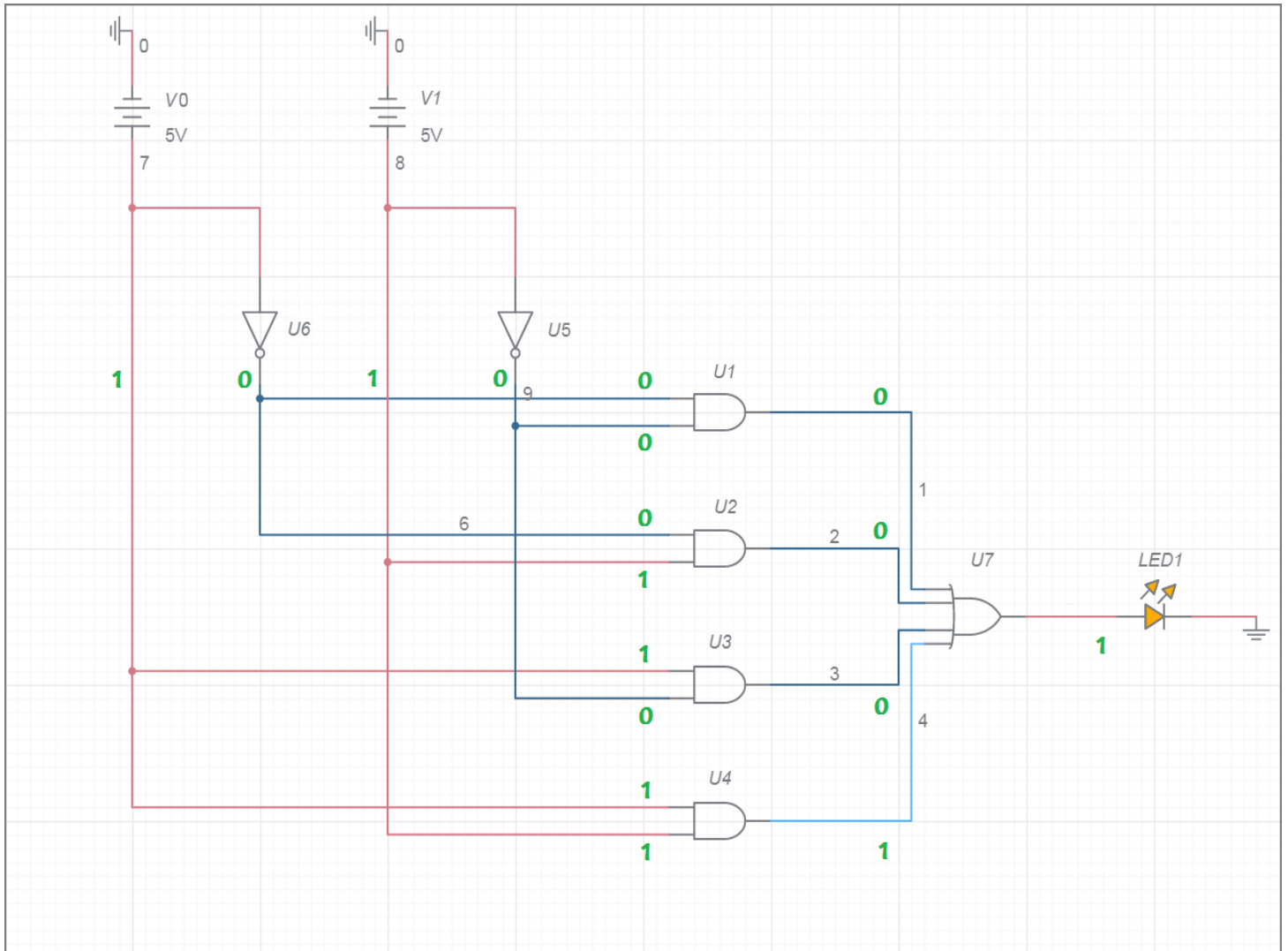
3. MULTISIM SCHEMATIC AND CIRCUIT DESCRIPTION

4. KICAD SCHEMATIC

5. APPLICATIONS

- One use for multiplexers is economizing connections over a single channel, by connecting the multiplexer's single output to the demultiplexer's single input.

- A multiplexer serves a number of IP network users; it feeds a link directly into a router, which immediately reads the content of the entire link into its routing processor.

- In analog circuit design, it is a special type of analog switch that connects one signal selected from several inputs to a single output.

6. CONCLUSION

Multiplexers can also be used to implement Boolean functions (True or False) of multiple variables.

A multiplexer makes it possible for several input signals to share one device or resource, instead of having one device per input signal.

It is also economical as compared to the cost of implementing separate channels for each data source is and also convenient compared to the inconvenience of providing the multiplexing/demultiplexing functions.

7. REFERENCES

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